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ABSTRACT

Covering a wide variety of issues of concern to professional educators, the papers comprising this proceedings present graduate student research on mathematics instruction, writing instruction, getting parents involved in their child's education, reading instruction for gifted students, and identification and services for learning disabled/gifted children. Papers include: "The Answer to America's Math Problem: Saxon's Incremental Method or a Traditional Method?" (Leanna Noah and Linda Paradis); "The Effect of Differential Writing Techniques on the Teaching of Writing" (Edwina Gleaton); "Involving Low-Income Minority Parents in Their Children's Education" (Deborah G. Taylor); "Components of an Effective Reading Program for the Gifted Student" (Resa Harris); and "Learning Disabled/Gifted Children: Identification and Service" (Pollyanna Diamond). (RS)

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THE SCHOOL OF EDUCATION

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MAY 14, 1990

WILLIAM G. HUITT, EDITOR

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Preface

The selections presented in this volume are edited versions of papers presented at the Fourth Annual Graduate Research Symposium sponsored by the School of Education at Valdosta State College on May 14, 1990. The purpose of the graduate research symposium is to acknowledge superior work of graduate students within the School of Education and to encourage other students to engage in research activities.

The Symposium owes its beginnings to efforts made by the Writing Across the Curriculum Committee at Valdosta State College. This college-wide committee was established to increase awareness of the importance of writing as an academic and learning tool. The committee was appointed by the Vice-President of Academic Affairs and held a number of workshops on specific techniques that could be used by college faculty to impact students' writing skills. As more faculty encouraged their students to engage in writing at the graduate level, a means was needed to recognize the excellent student work being produced.

The papers selected for the fourth symposium cover a wide variety of issues of concern to professional educators. In the first paper, *The Answer to America's Math Problem: Saxon's Incremental Method or a Traditional Method?*, Leanna Noah and Linda Paradis report the results of a quasi-experimental study on two instructional mathematics methods. Although no significant differences were found in total math scores, significant differences were found for computational scores.

Edwina Gleaton reports on a study of high school essay writing in her paper titled, *The Effect of Differential Writing Techniques on the Teaching of Writing*. Her findings suggest that a combination of techniques may be more effective than exclusive use of any one at a time.

In *Involving Low-Income Minority Parents in Their Children's Education* by Deborah G. Taylor, describes some effective methods of involving low-income minority parents in their children's education, citing some advantages and disadvantages in implementing a parent involvement program.

In *Components of an Effective Reading Program for the Gifted Student*, Resa Harris discusses some issues involving the identification and development of gifted students and presents specific guidelines for implementing a differentiated program of reading for the capable learner.

Difficulties dealing with a minority of gifted children are discussed by Pollyanna Diamond in her paper titled, *Learning Disabled/Gifted Children: Identification and Service*. She describes some of the problems with assessment methods which make it difficult to identify these students and provides some alternatives for assistance including both remediation and enrichment.

Acknowledgements

As mentioned in the previous proceedings, these volumes owe a debt to many people. The members of the Writing Across the Curriculum Committee and the Vice-President for Academic Affairs are primarily responsible for providing the impetus to hold the original symposium. F. D. Toth, Dean of the School of Education, is primarily responsible for providing the resources to hold the symposium and publish the proceedings. The editorial review board, with the assistance of faculty readers Bob Bauer, Jim Conn, Jo Crain, Jay Hertzog, Larry Hilgert, Marty Meyer, Ben McLain, and Bob Trautman, are primarily responsible for the selection of papers actually presented at the symposium. Ann Hilgert provided invaluable editorial assistance while Shannon Seasholtz and Charlene McQuire provided typing assistance.

Biographical Sketches of Presenters

Pollyanna Diamond holds a B.S. degree in Music Education from Gettysburg College, an M.Ed. degree in Elementary Education from Armstrong State College, and an M.Ed. degree in Educational and School Psychology from Mississippi State University. She is currently a teacher in the Gifted Education Program for Valdosta City Schools, Valdosta, Georgia.

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The Answer to America's Math Problem: Saxon's Incremental Method or A Traditional Method?

Leanna Noah
Linda Paradis

This study investigated mathematics achievement and attitudes of students enrolled in Saxon's incremental development classes verses traditional math classes. California Achievement Tests were administered to the students in the fall and again in the spring to determine if any significant differences existed between the classes taught using incremental development and those taught using a traditional method. No differences were found for students enrolled in pre-algebra; those students taught using the incremental development method had significantly higher gains in computation scores. A Likert attitude scale was administered to all students in the fall and in the spring. No differences in attitudes were found.

"America is a mathematical wasteland" (Saxon, 1984b, p. 10). "The teaching and learning of math are in sore need of repair" (Finn, 1988, p. 30). "Today there is a strident cry for relevance in the mathematics we teach" (Long, 1982, p. 413). "The United States is an underachieving nation and the curriculum is helping to create a nation of underachievers" (U.S. Math Curriculum, 1987, p. 558). American eighth grade students finish last when compared to eighth grade students of other developed countries (Austin, 1988).

Educators and researchers resound the message that the students of America are not achieving at an acceptable level. According to the National Assessment of Educational Progress (NAEP) testing program, just half of American 11th graders knew that 87% of 10 is less than 10 (Finn, 1988). Students in another NAEP project in 1977-78 showed a lack of basic problem-solving skills, indicating a need for increased attention in this area (Carpenter, Corbitt, Kepner, Lindquist, & Reys, 1980). Even though the United States has devoted energy into raising mathematical achievement since the Sputnik scare over 20 years ago, today's students have declined in achievement on most standardized mathematics tests (Saxon, 1984b).

Many reasons have been offered for the poor performance of American students in the area of mathematics achievement. Lack of time and large class size have been included as possible excuses (U.S. Math Curriculum, 1987). Saxon believes that today's flight from mathematics by American secondary students is caused by intimidation and frustration in the mathematics classroom. When the text moves from one unit to another before the students grasp the concepts, students face failure and do not advance to higher mathematics courses (Saxon, 1984a). Some educators believe that students need to be made aware that

math is increasingly useful in today's technological society (Neff, 1984). Math should, therefore, be taught not only as a science and as a tool but as a multifaceted art (Long, 1982).

Traditional mathematics instruction has been primarily structured around the nationwide "back to the basics" movement. Students should be able to perform manipulative operations in arithmetic and algebra, according to the general belief (Fey, 1979). This approach, stressing mastery of computational skills, often neglects problem-solving skills necessary for advanced courses (Chisko, 1985). Equally as important, upper level secondary mathematics do not stress the teaching of applications (Usiskin, 1985).

The traditional mathematics class follows an established daily routine. One profile of such a mathematics class depicts extensive teacher-directed explanation and questioning followed by student seatwork on paper-and-pencil assignments (Fey, 1979). From a survey of 250 secondary mathematics teachers in New England, 65% stated that they followed a similar routine consisting of first answering questions about homework on the previous lesson, explaining the next concept by working problems with discussion, working classroom exercises with explanation of students' questions, and assigning homework (Hawkins, 1987). The traditional mathematics teacher often does not provide for guided discovery, thereby ignoring an important step in the learning process (Herman, 1983).

Findings by the National Advisory Committee on Mathematical Education reveal that elementary school mathematics instruction is similar to that of secondary mathematics class structure. A single text was used in whole-class instruction and this text appeared to be a source of problems for the students to solve (Romberg & Carpenter, 1986).

One study strongly concluded that student achievement mirrors textbook content (Walker & Schaffarzick, 1974). Student ability, personality characteristics, student effort, and self-concept also have a bearing on achievement (Stronge, 1985).

Attitudes toward mathematics are often a subject of interest to those involved in education. In mathematics, feelings of like or dislike are most often stressed, but feelings about the value of mathematics are sometimes considered (Aiken, 1985). According to an investigation by Corbitt (1984), students believed that those students who liked mathematics were successful in it and had teachers who positively influenced them. Students who disliked mathematics were disinterested in it, found mathematics difficult to understand, boring, or disliked their mathematics teacher. Negative feelings toward mathematics may result from frustration as the student tries to learn rather than be the cause of learning difficulties (Tishler, 1986).

The concept of presenting mathematics through a program of incremental development has been defined by Saxon. Described as a renegade math educator, Saxon believes that repetition is necessary to permit all students to master all concepts. The incremental development curriculum arranges lessons in a cumulative manner in which concepts are introduced and then reappear throughout the course. This approach is neither traditional nor is it

similar to the popular approach used in today's secondary general math classes. Even critics of Saxon agree that the concept of presentation is promising (Finn, 1988).

John Saxon, an electrical engineer, graduated from the U.S. Military Academy at West Point. He believed that the decline in achievement of students in the United States was neither due to a decline in student ability nor due to poorer teacher preparation. Rather, the decline was due to the traditional methods of presenting material in discrete units. Saxon's method of instruction is known as incremental development; others refer to the method as a spiral method (Saxon, 1982).

Educators have used spiral instructional methods for many years in traditional classrooms. "Each year the curriculum spirals back to a point only slightly more advanced than the year before" (Sherman, 1988, p. 45). Spiraling leads to the redundancy found in many junior high texts with only about 25% new content; the balance of material is review of concepts covered in previous years (Austin, 1988).

Although incremental development appears to be a spiral method, it is quite different from the traditional spiral method. Continuous review provides development of new concepts without neglect of previously introduced ones. An incremental approach allows a fundamental facet of a concept to be presented and practiced for four or five sets before the next facet is introduced. Then this second concept, along with the first, is practiced for some time before introducing another concept. The practice is spread out over a period of time and is not concentrated into units (Saxon, 1982). Saxon's method demands that every student work all assigned problems and recommends that the more difficult problems be worked first to allow the teacher, or another student, to assist those experiencing difficulties (Saxon, 1987).

Finn (1988) has described incremental development as a method in which math lessons are organized in "cumulative fashion such that a concept introduced at one stage keeps reappearing--and being practiced--throughout the course" (p. 31). Klingele and Reed (1984) state that the incremental approach is based on principles of sound instruction.

Little research has been conducted on the incremental development method. Saxon has done many of the studies. Nevertheless, the research has produced some interesting results. The Saxon program was piloted during the 1980-81 school year in 20 Oklahoma public schools. Each teacher taught both a control and an experimental group. The group which used the Saxon method showed only gains. These results were reported by Saxon in 1982. In a pilot program conducted the following year, students using the Saxon text scored 50.8% higher on a year-end test of skills than students using traditional textbooks (Saxon, 1984b). Saxon did not participate in this evaluation.

The University of Arkansas conducted research in 1982 and obtained similar results. In May, 1983, schools nationwide obtained comparable results in trial programs with Saxon's method and textbook (Saxon, 1984b). Klingele and Reed (1984) found that their research results favored the incremental method, but their results were not as remarkable as Saxon's.

In a study conducted in Oklahoma in 1981, teachers reported that students using the incremental development textbooks showed a more positive attitude toward mathematics than students using traditional textbooks (Saxon, 1982). However, Klingele and Reed (1984) found no significant differences. Finn (1988) stated that, according to Saxon, the incremental method is especially good for encouraging slow and disadvantaged students to advance in mathematics.

Reed (1984), director of Houston Independent School District, believed that Saxon plays on the emotions of others in his appeals and advertisements for the Saxon textbooks and that the Saxon methods are unreliable and should not be employed. Finn (1988) reported that Usiskin has expressed the opinion that Saxon's books are "sterile" (p, 31). Finn also stated that Saxon's solution to mathematics problems today is a continuation of present attempts if not a step backward.

It is unlikely that additional research favoring Saxon's method would change the opinions of the educational community. The controversy is political. Saxon has challenged the leaders of the mathematics education establishment by defying their traditional means of teaching mathematics (Finn, 1988).

Methodology

Hypotheses

1. There will be no significant differences in achievement between students in mathematics classes taught using Saxon's incremental development method and students in mathematics classes taught using a traditional method.

2. There will be no attitudinal differences between students in mathematics classes taught using Saxon's incremental development method and students in mathematics classes taught using a traditional method.

Population

The population for this study consisted of two pre-algebra classes and two general math I classes at a small secondary school in south Georgia.

Instruments/Data Collection/Analysis

All students were pretested and posttested using the California Achievement Test (CAT), Form E. In September and again in May, pre-algebra students took the CAT, Level 20; general math I students took the CAT, Level 18. Gains in the students' scaled scores were compared using t-tests to determine if any difference existed between scores from the traditional classes and scores from the Saxon incremental development classes. In the fall and in the spring the study employed a Likert scale to measure attitudes for both the pre-algebra and general math I classes.

Teaching Methods

One teacher taught the pre-algebra classes and a second teacher taught the general math I classes. Each teacher taught one class using each of the methods employed in the study.

Teaching methods employed in the traditional math classes and in the Saxon

incremental development math classes differed. The traditional classes were taught in units (chapters). The teacher first explained and demonstrated new concepts and answered questions about the concepts and assignments. Students then worked problems on the chalkboard and on paper. The teacher encouraged class discussion and gave assignments composed of problems from the day's concepts. The teacher assigned a few review problems and administered tests at the end of the units. Although math is a cumulative subject, specific skills from previous units did not comprise a large portion, if any, of a unit's problems.

The Saxon mathematics classes were taught in lessons. Each lesson introduced a new concept. The lessons in the text included a short explanation of the new concept. The assignment for each lesson consisted of 4 or 5 problems related to the new concept and 20 to 25 problems related to concepts taught previously. Each day the teacher gave the students all answers to the previous day's exercises. The teacher did not encourage class discussion about these problems. All assignments were checked for completeness. The new lesson was briefly introduced, allowing approximately 45 minutes of class time to work the next assignment. Students were encouraged to work together. Cumulative tests were administered every 4 or 5 days to assess student progress.

Results

In the general math I classes there were no significant differences in achievement nor attitudes between the traditional math classes and the Saxon math classes. Therefore, the null hypotheses were not rejected.

Through the use a t-test, comparison of computational achievement gains between the pre-algebra classes showed that the Saxon class had significantly higher gains than the gains for the traditional class. However, the study found no significant differences in application skills or in attitudes, and therefore, the null hypotheses related to these areas were not rejected.

Conclusions and Recommendations

This study concludes that Saxon's incremental development method enhances students' computational skills, but does not lead the students toward an understanding of pre-algebra applications and concepts. Since the study found no significant achievement differences for total math scores between the traditional method and the incremental development method, the null hypothesis was not rejected. However, since computational scores differed significantly, additional investigations in this area are warranted. The incremental development method could be incorporated into a traditional program so students receive the best of both approaches.

Since no attitudinal differences appeared between the two classes, the null hypothesis was not rejected. Therefore, the method chosen for teaching these classes should be one with which both teacher and students feel most satisfied and comfortable. Each teacher should evaluate student needs and choose a method which meets those needs. Saxon provides a method which can help students having weak computational skills. For students with accept-

able computational skills, either method may be equally appropriate.

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The Effect of Differential Writing Techniques on the Teaching of Writing

Edwina Gleaton

This paper reports the effect of three different writing techniques on expository essay writing of high-level ninth grade students. The three techniques were (a) using computers, (b) using the process approach, and (c) using looping. The literature on the writing process and on techniques for its improvement was reviewed. Differences in gain scores were tested using analysis of variance for three dependent variables: grades, development, and fluency. No significant differences among means were found. The implications of these findings are discussed.

The potential effect of different methodologies or techniques of teaching composition has been studied for many years (Bloom, 1976; Dunkin & Biddle, 1974; Hunter, 1984; Rosenshine & Stevens, 1986). The difficult challenge faced by teachers of English composition is taking what is both practical and productive from the research and relating it to the writing classroom. Applebee (1981) observed that, "relating new research to current practice is no easy matter." (p. 1). Albeit difficult, only through continued research and application can composition teachers more effectively teach writing and help students improve both writing skills and written products.

This study investigated the effect of three writing techniques on the essays of high-level ninth graders. These techniques were the (a) use of computers for composing, (b) the process approach in composing, and (c) looping in composing. This paper will discuss the literature, methodology, and results of the study.

The hypothesis for this study was that no statistically significant differences would exist among the three composition teaching strategies investigated, i.e. using computers, using the process approach, and using looping. Gain in scores was measured for three writing samples. These samples were analyzed for content and development of ideas, fluency, organization, style, and mechanics.

Review of the Literature

In the last 20 years, concern about and interest in both the writing process and the teaching of writing have increased. In analyzing the changes from 1969-1974, Lloyd-Jones and Winterowd (as cited in Mellon, 1976) stated that students do not write as well for several reasons: (a) students read less; (b) less motivation exists to write; (c) less writing is assigned because of class size; (d) an increase in "personal narrative" writing has reduced expository writing; (e) the Edited Standard Index is "a 'dialect,' an index of social status" appealing now to few students; and (f) outmoded standards of judgement for determining writing grades.

Applebee (1981) observed that such criticism of teaching in conjunction with public concern and awareness has "coincided with new insights into the linguistic and psychological processes involved in writing--insights drawn from a range of disciplines using a variety of research techniques" (p. 1).

Through important case studies, Emig (1971) analyzed the composing processes of 12th graders, and Graves (1973) investigated writing in the elementary school classroom. Experimental studies (Tovatt-Miller, 1967), ethnographic research (Kantor, Kirby and Goetz, 1981), and large-scale evaluations of students' writing ability (National Assessment of Educational Progress, 1975; 1976; 1977a, 1977b; 1980a, 1980b, 1980c) have been conducted. Linguists and rhetoricians have developed new approaches to textual study (Halliday & Hasan, 1976; Kinneavey, 1971), and psychologists have begun to study "propositional structures" as related to comprehension (Applebee, 1981; Freedle, 1979).

Emig (1971) indicated three major difficulties with the research data: (a) the data are not systematic; there is no "shared set of strategies," (b) the data are often contradictory, unique, "even idiosyncratic," and (c) few sources deal "in adequate theoretical or empirical depth" concerning how students write (p. 7).

Prior to the 1970s, research in composition was primarily limited to product and teaching methods. Current research demonstrates that composition is a process quite different for individual writers when composing is done naturally. Moreover, the process is usually not linear but recursive, and emphasis must be on the student rather than on the teacher. Writing ability must and **can** be developed instead of taught. Such ability is not merely a "gift" with which some students are born.

In the past, no uniform syntactic indices for composition research have been developed which would be recognized by a consensus of English teachers and professionals in the field of composition. In critiquing various indices of syntactic maturity, O'Donnell (1976) cited Hunt's 1965 study of student grammatical structures. Hunt proposed "a syntactic unit consisting of one main clause and any subordinate clauses attached to the main clause" and suggested this unit be called a "T-unit" (pp. 31-32). O'Donnell recommended a balance between "precision and utility" but concluded that "T-unit length is still the most useful and useable index of syntactic development and that mean clause length is the best single measure of syntactic complexity at the high school level and beyond." O'Donnell also noted the need for continuing research (p. 38).

O'Donnell, Griffin, and Norris (1967) found a "positive correlation between increases in number of words per T-unit and number of sentence-combining transformations per T-unit". O'Donnell (1976) devised an instrument requiring sentence rewriting and expansion to vary structures (p. 33) and also mentioned the index proposed by Endicott (1973) to define syntactic units in "psycholinguistic terms." According to O'Donnell (1976), Golub and Kidder (1974) devised a "discriminating linguistic index" known as a "Syntactic Density Score" which analyzes T-unit and subordinate clause length as well as "complex verb phrase expansions and various kinds of embedded structures" (p. 35).

The Writing Process

Warnock (1984) defined writing as "the least a machine or person would have to be able to do to enable us to say truthfully . . .that it was actually writing in the way we know all human beings are able to do in enabling situations." He submitted, as have other researchers, that readers have access to the written product, the result, but

not to the "cognitive processes" that produce that product. Warnock analyzed the shift from "product" to "seeing into writing." As overviewed by Warnock, research on the cognitive processes of writers includes work by Flower and Hayes (1980, 1981a, 1981b), Scardamalia and Bereiter (1981), Gould (1980), and Nold (1980). Linguistic research includes studies by de Beaugrande (1980), Chomsky (1957), and Coles (1982). Graves (1983), Calkins (1983), and Sowers (1982) conducted "naturalistic research", while Kantor, Kirby, and Goetz (1981) conducted "ethnographic research".

Other researchers believe the focus should be on the writing process rather than the writing product. Many of these researchers state that planning, writing, and revising constitute the minimum steps of the writing process. Flower and Hayes (1981b) investigated the nature of planning in the composing process. The first "linguistic hypothesis" is that writers pause in order to "generate and plan what they are going to say next." The second "theoretical hypothesis" is that when people pause for "significant lengths of time," it is in order "to carry out more global rhetorical planning or problem-solving which may not be directly related to their work." This study looked at how these hypotheses are related and concluded that (a) "planning occurs at many levels," (b) the composing process has an "episodic pattern of its own," and (c) "the beginning of individual episodes" are clearly dominated by "goal-setting activities."

As Flower and Hayes investigated the process of planning, Bridwell (1981) investigated the process of revision. In her literature review, she found that most authors present a very limited view of revision with Kirby and Liner (1981), Lanham (1979), and Murray (1978) being notable exceptions. Bridwell (1980) noted that although many studies have included revision as a variable, only a limited number (Beach, 1979; National Assessment of Educational Progress, 1977; Sommers, 1978) have exclusively analyzed revision. Bridwell suggested that composing should be flexible and personal and offered a composite model for revision based on the work of Emig (1971), Della-Piana (1978), Nold (1978), Pianko (1979), Sommers (1978), Tomlinson (1979), and a "synthesis of findings in twelfth-grade revision behaviors" (p. 220).

Emig (1971) tried to determine "the ways that students usually or typically behave as they write" (p. 5). According to Emig, older secondary students make a "crucial" distinction between the two dominant modes of composing--reflexive and extensive.

Emig (1971) suggested there may be more or fewer steps than planning, writing, and revising as suggested by other researchers. According to Emig, writing may be "recursive, a loop rather than a linear affair" in which students can order their processes in ways that work best for them (p. 131); and that the students' skills, temperaments, ego-strength, and modes of writing must be considered (pp. 131-2). Emig states that teacher response is the "key variable and requires a certain kind of teacher--one who knows the writing process, the students, and one who has "tact, taste, and sensibility" (p. 135).

Stallard (1974) attempted to determine the behavior of good writers in order to define the "criterion of excellence" used in teaching and evaluating writing (p. 206). Distinctive in this study were: (a) comple-

tion time, (b) nature and amount of revision, (c) "contemplating or reading product at intervals", and (d) a clear sense of purpose (p. 216). Surprising characteristics noted for both good and poor writers included a lack of concern for audience and for "predetermined paragraph structure." The author concluded that this study of writing behaviors supported Britton's idea (Dixon, 1967) that "writing may in itself be an act of perception and conceptualization."

Bruton and Kirby (1989) suggested that traditional views of written fluency have also been too limited. According to them and other researchers, just one writing process does not exist. The concept of "an interplay of processes" leaves students free to choose the combination best for them. Bruton and Kirby suggested that through models, a frequently used instructional technique, teachers can encourage immediate response to discern how writers work.

These studies have practical implications for the classroom (Bridwell, 1981.) First, students may not always be able to write effectively with one draft. Second, students need to know that "revision is more than cleaning up prose of its stylistic infelicities." Third, revision needs may not be obvious; they may require that others look over the writing and give feedback. Finally, until students know "they have written well and communicated, they will have little desire to revise."

The necessary interaction between student and teacher demonstrates the communication involved in teaching and learning. Jeffrey (1981) looked at the serious lack of effective communication in the teaching of composition and suggested designing an effective writing program by "listening" to students' suggestions. This survey also suggested that students are writing primarily "as a skill-developing task, and as a means to acquire and display knowledge" (p. 227).

Also attempting to aid the classroom teacher in understanding and teaching the process of writing, Flower and Hayes (1977) suggested looking at writing as a form of problem solving and using "heuristics." This study analyzed strategies for writing using "protocol analysis," a tape transcript of a writer composing aloud; moreover, the researchers noted writers' "inspiration, prescription," and "writer's block" (p. 451). The delineation of a heuristic strategy for analytical use included planning, "generating ideas in words," and "constructing for an audience" (pp. 453, 458-60).

Particularly necessary for the composition teacher is an understanding of writing basics. Walshe (1979) noted humorously that the only thing "basic" to teaching anything is the teacher and then suggested five qualities (or basics).

1. The teacher values writing and is enthusiastic, for writing is "more often caught than taught." Students write often, and the teacher considers quantity, quality, and a variety of forms and functions of writing. Furthermore, the teacher can provide the best demonstration of writing by writing and sharing with the class.

2. The teacher values the "Learner-Writer" and is not just concerned with "marking" papers, but also with listening and responding.

3. The teacher encourages pleasure in reading since reading and writing are the "two sides of the coin of literacy." In addition to reading for pleasure, students are encouraged to read aloud. Shaughnessy (1976) notes that a student's competence as a speaker serves as a "bridge to writing,"

but that reading most often provides real models for written language (p. 53).

4. The teacher makes use of insights into how good writing occurs. Analyzing the parts of the writing process with students, the teacher also understands the importance of sharing and responding to writing and periodically offers students the opportunity to polish and rewrite for publication.

5. The teacher fosters self-editing.

To promote a constructive, positive classroom atmosphere for effective sharing of peer responses and suggestions, Lyons (1981) constructed the "PQP" method of responding to writing. Using Lyons' method, students ask: "What do you *like* about my paper?" In response, the teacher and peers *praise* the paper. Students then ask *questions* about the paper. Finally, students ask: "What kind of *polishing* do you feel my paper needs before it can be published?" Only in this final stage are students permitted to suggest things which should be polished or corrected. At this time, students work together preparing their papers for publication. Lyons cited Macrorie's Writing to Be Read (Lyons, 1981) as a helpful resource for teachers wanting to follow this process. Many variations of this method can be easily and effectively used or adapted in all secondary English classrooms.

An understanding of the necessity of interaction during instruction is also helpful to the classroom teacher. Hillocks (1982) examined the effects of stressing three phases of the composition process in teaching. Two phases, feedback (especially teacher markings and comments) and revision (when two or more drafts are written) have been very effective. The third, "observation of data," is related to "invention" and has seen a recent revival of interest. Hillocks examined several studies, including those of Burton and Arnold (1964), Emig (1971), Gee (1972), Sutton and Allen (1964), and Taylor and Hoedt (1966) related to the topic of feedback.

According to Hillocks (1982), some scholars have argued that teachers must instruct students to deal with "data as a prerequisite for writing" (Pike, 1964; Odell, 1974), while others have neglected "how writers deal with data before they write" (Emig, 1971; Pianko, 1979; Perl, 1979). Furthermore, Hillocks suggested that some process of "screening, differentiating, integrating, and organizing must take place before writing begins" (p.264), while Odell (1974) strongly recommended "learning and practicing a heuristic [which] results in writing that examines data more thoroughly" (cited in Hillocks, 1982).

Hillocks' (1982) study has a number of implications for instruction and research. Some of the most important are:

1. "Significant gains in writing skill are possible over short periods of time."

2. Teaching students to deal with data is valuable.

3. Practice in revision (focused on specific goals or skills over several pieces of writing) can improve writing skills.

4. Teacher feedback (when positive and focused on specific aspects of writing) can be effective.

5. Even though a number of studies suggest that mere "teacher comment has little or no effect on writing skill," examining "variables in combination rather than individually" can be valuable (p. 276).

Also important in classroom teaching are the various modes of instruction available to the teacher. In the "presentational" mode, the teacher is the presenter, lecturing

on characteristics of model compositions (Hillocks, 1984). In the "natural process mode," the teacher becomes a helper, a guide, reacting to rather than directing student writing. In "the environmental mode," responsibilities of teacher and student are balanced, and the teacher encourages small group writing to stimulate students to think and practice writing strategies (p. 144). Finally, in the "individualized mode," the teacher works one-on-one with the students using tutorials and programmed instruction (p. 146).

In relation to six activities traditionally used in teaching composition, Hillocks (1984) noted that writing quality of students did not change as a result of studying grammar and mechanics (p. 160). Elley, Barham, Lamb, & Wyllie (1976) provided an overview of studies which attempted to measure the benefits of teaching traditional grammar as well as new linguistic approaches such as "transformational and structural grammars." The authors noted studies by Harris (1962), Bateman and Zidonis (1966), and Mellon (1969), which determined that "effects of a transformational grammar study are negligible, while traditional grammar showed no benefits" (pp. 17-18). Free writing and the use of models produced small gains, while sentence combining and working with scales were more effective. The inquiry method, however, more than doubled the improvement shown by students who used free writing and models (p. 161).

Some current trends in the teaching of composition include (a) less teaching of mechanics and grammar as separate entities in English courses, (b) more use of written language as a method to foster learning rather than merely to display knowledge, (c) an inclusion of "personal" writing (such as journal writing) in addition to shared or published writing, (d) more emphasis on composition and less on editing, (e) more frequent short expository and narrative essays, (f) more parental involvement in student writing, and (g) the importance of writing to all learning.

Noting the widespread confusion relating to the roles of writing and implications of different approaches, Applebee, Lehr, & Auten (1981) offered several suggestions for improvement: a) using writing as a tool of learning rather than a means of displaying knowledge; b) bringing new research and methods to teachers, providing them with a framework for analyzing contexts; and c) and creating contexts in which writing "serves natural purposes" (p. 82). Research should investigate the hypothesis that "natural contexts will foster and support the learning of information and skills" (p. 82).

Looking at trends and directions for the 1980s, Bamberg (1981) attempted to determine whether or not composition instruction has increased; how much instructional emphasis is given to content development/ organization, style, grammar, and mechanic; and whether or not students enrolled in advanced freshman composition have had "more extensive" or different composition instruction than students in a regular composition class. Results of the 1979 Bamberg survey indicated overall improved editing and composing skills, when taught as part of the composition process, suggesting that grammar study occurred in the "context of the total writing process" rather than as a separate subject (p. 262). A "continued lack of emphasis on style," appeared suggesting that classroom strategies need to be developed to teach style more effectively. According to Bamburg,

increased composition instruction, a balanced emphasis on composing and editing skills, and more frequent writing of short expository essays should be encouraged and continued.

Another practice which is being implemented more in composition instruction in the secondary school classroom is parental involvement in student writing (Dolan & Caroselli, 1982). Results of this study suggested that parental involvement on the secondary level "can have an impact on writing skills for a selected group of students." Interestingly, the program was particularly effective for low-achieving students, the "traditionally problematic," low-ability, urban minority, secondary students who would probably be in a remedial class.

A controversial current trend and a center of change in teaching English in the United States is the use of computers. Evans (1979) called the computer the extraordinary achievement of modern technology and said that "within range of its expected influence lies every aspect of human society" (p. 1). The transformation given impetus by the computer presents a major challenge to education. This challenge provided the focus of a survey conducted by the National Education Association (NEA) (National Education Association, 1982) Five important assumptions underlie this survey:

1. A computer revolution is underway in the United States and in other industrialized countries.

2. The resultant challenges can be beneficial to individuals and to society

3. Schools can help prepare people for life in a computer-oriented society.

4. Planning for such anticipated change is preferable to ignoring, fighting, or refusing to understand computers and their implications for society.

5. Responsible, effective planning will consider both current economic and political realities of public schools and the teachers working in them (p. 20).

In the NEA survey (National Education Association, 1982), most teachers who reported on the effects of computers on students (70% or more) believed that the effect was positive on students' motivation, subject interest, attention span, self-confidence, and cognitive learning (p. 56). Such positive benefits are now available to the language arts teacher who may design or buy computer programs to explain, drill, review, and test grammar, mechanics, research, all modes of composition including newspaper reporting, layout and design, as well as literary analysis. Adams and Jones (1983) suggested that "an education in the Language Arts should include computer skills and should also give students imaginative understanding for their future roles in society (p. 84).

Gula (1982) showed that composition can be simplified and enhanced by using a word processor, which enables students to edit and revise quickly and effectively without the frustration of redrafting the entire essay. Shostak (1981) believed that the computer can facilitate the prewriting stage of composition by posing a series of standard questions to the writer, while Southwell (1984) reported that computer-assisted instruction is also effective for developmental writing, including teaching conventions and grammatical forms of standard written English. Schuelke & King (1983) found the computer to be an effective tool in teaching reading comprehension skills, composition, organizational communication skills, and information utilization.

However, with all of the potential benefits from computer use, Selfe (1985) suggested the computer complicates the "business of literacy" (p. 70). English literacy has traditionally addressed reading, writing, and other ways in which people express and interpret meaning from printed texts. Computer literacy--knowledge of a computer system, a word-processing package, a keyboard, and a printer--is layered over the traditional tasks of reading and writing, thus creating multiple literacy demands (p. 70). This "multi-layered literacy" may account for the fact that some students experience more difficulties working with on-line computer texts (Gould & Grichowsky, 1984; Haas & Hayes, 1986; Wright & Lickorish, 1983) and composing with computers (Selfe, 1985) than working with regular, hard-copy texts. With the advent of computer composition, English teachers must "identify strategies that will help students deal with multi-layered literacy demands" (Selfe, 1985) in order to promote success. As Kemp (1987) points out, "The writing instructor must direct the programmer, and instructional effectiveness must direct the technology. Not vice versa" (p. 39).

Focus on cognitive implications of writing is another current classroom trend. To increase higher levels of thinking, Walshe (1987) proposed "a fresh perspective on 'process' [writing] helped by some thought-provoking synonyms" associated with Dewey, i.e., "ends are products, means are processes" (p. 25). This perspective involves: (a) seeing the writing process as "a whole engagement of the mind" with every detail receiving attention; (b) realizing that there is no such thing as "THE process of writing"--there are many different processes; (c) understanding that the teacher's role is to help students explore *their* individual processes and to build their confidence in using them; (d) recognizing that having time to think and function effectively is essential; (e) learning to value the invisible aspects of writing--frustration, a new start, a different understanding; (f) realizing that writing is deep, and careful thinking means drawing on many resources--"collecting, connecting, clarifying," discovering; (g) observing "interacting subprocesses"--"learning-to-write and writing-to-learn"; and (h) seeing behind learning to write, the process of "learning how to learn" (p. 26).

Methodology

The subjects of this study were ninth grade, high-level students at a public high school in south Georgia. The subjects were representative of the high-level students at this school but not of the student body in general. The student body was 51% white and 49% black, the high-level group was 77% white and 23% black.

The measuring instrument in this study was a modified Diederich scale. In order to validate the categories of the researcher-made instrument, three English teachers reviewed it and submitted suggestions of changes. The final instrument incorporated these changes.

This study used the pretest/posttest control group design. The independent variable was the method of instruction. The dependent variables were three scores on student essays: grades, development and fluency. "Good" essays had fluency (as determined by the number of words in the essay), effective sentence formation (with clear sentences ranging from grammatically simple to compound-complex sentences),

good content (adequate development of ideas presented), and good mechanics (being relatively free of mechanical errors). Completed essays from all classes were analyzed for syntactical and grammatical complexity and for adequacy in the development of ideas. Development of ideas was scored as follows: 1 = excellent, 2 = good, 3 = minimal, and 4 = inadequate. Fluency was measured by counting the total number of words in each student essay was well as by counting the number of words in each paragraph and computing the average paragraph length for each student.

Students wrote throughout the school year, responding to different kinds of writing assignments. However, to complete this study, students in three different English classes wrote three essays. Students in Group I used computers for composing. Each student had access to a computer and a familiar word processing program. (All beginning ninth-grade students were required to learn the MECC Writer word-processing program and use it for composing in the required word-processing unit of the curriculum.) However, no attempt was made to measure the possible effects of the word processing package itself or to measure typing skills, although both the word processing program and level of typing skill may have influenced the final written product.

For Group II, the process approach to classroom writing was followed. This approach involved choosing a topic, brainstorming, making a jot list, writing a rough draft, revising, editing, proofreading, and turning in the paper.

Group III used looping (writing whatever comes to mind without planning or correcting papers) as a warm-up exercise for 10 minutes before beginning actual compositions.

All students wrote on one of two topics. Since the assigned curriculum unit during the time period of this study was Writing about Literature, topics were related to literature read by the student and discussed in class. Composition topics required the student to analyze characterization, theme, or imagery in a particular work. Gain scores were analyzed through one-way analysis of variance with post hoc analyses where appropriate, using the Statistical Package for the Social Sciences (SPSS).

Results

The three groups were compared with each other in their gain over time on three items: grades, development, and fluency.

Table 1 shows the analysis of variance for grades. The total mean for Group I was 2.3; for Group II, 1.2; for Group III, 1.2. The overall mean was 1.6.

Table 1. Grade Gain from Test 1 to Test 2 by Class

Source	df	Sum of Squares	Mean Squares	F
Between Groups	2	16.70	8.33	.16
Within Groups	62	3131.40	50.51	
Total	64	3148.06		

Table 2 shows the one-way analysis of variance for the gain in development in student essays. The mean for Group I was -.048; for Group II, .00; for Group III, -.0952. The overall mean was .05.

Table 2. Development Gain from Test 1 to Test 2 by Class

Source	df	Sum of Squares	Mean Squares	F
Between Groups	2	.10	.05	.95
Within Groups	62	56.76	.92	
Total	64	56.86		

Table 3. Fluency Gain from Test 1 to Test 2 by Class

Source	df	Sum of Squares	Mean Squares	F
Between Groups	2	50005.54	25002.27	2.80
Within Groups	62	553729.92	8931.13	
Total	64	603735.46		

Table 3 shows the one-way analysis of variance for the gain in fluency in student essays. Although these figures indicated no statistically significant difference, the educational significance will be explained in the discussion of results. The total mean was 18.28. In Table 3, the mean for Group I, was -29.71; for Group II, 33.92; for Group III, 16.24.

In terms of overall gain, no significant grade change occurred, although Group I (using computers) and Group III (using looping) noted a slight loss in grades, development, and fluency. However, Group II (using the process approach to writing) showed a gain approaching significance.

Discussion and Conclusion

Several factors could have influenced these results. First, the implementation of computers and looping to compose was innovative. Teachers often move students too quickly into composing on the computer and do not take into account "multi-layered literacy" demands. Since students were exposed to these innovative methods during a period of 6 weeks, they may not have become sufficiently accustomed to the new methods. Teacher presentation and methods of implementing the techniques might be improved after continued use. Due to the short time period, the study probably did not accurately portray what could be accomplished with continued use of the computer and looping in composing. Students using the process approach had the advantage of using a familiar composition method.

From the results of this study, the researcher would encourage using the best qualities of all three methods of composing

--using looping to brainstorm, gather thoughts and ideas; using process writing to aid in planning and in achieving clear communication; and using the computer to revise efficiently and effectively.

Participating students were both more enthusiastic and eager to write when using looping and computers than when using only process writing. Some students who composed with computers, however, were intimidated by them. Some of these individuals did not have much typing experience and also felt insecure about their typing skills and their ability to compete with other more skilled classmates. Research should be conducted on teaching keyboarding/typing skills in the middle grades so that when word processing is a required component of the ninth-grade curriculum, students would have basically similar typing skills.

Further research on techniques used to teaching writing is needed; results will help composition teachers improve their students' writing processes as well as written works.

Writing is "the greatest tool of thinking ever invented by man;. . . it functions as an extension of the self, allowing the writer to create a reality of thought. . .unique to verbal language and dependent. . .upon presentation in writing," as John C. Mellon (1974) has observed. The learning power of writing cannot be overlooked; it involves deep and careful thinking which draws on many different resources, observations, and experiences and requires careful communication to convey thoughts and messages clearly and effectively.

In teaching writing, one is, in effect, teaching thinking, logic, the principles of learning involved in mastering any subject, as well as self-discovery and expression. These components in conjunction with traditional tenets of an English program, such as vocabulary, sentence structure, and literature, produce a scope which perhaps seems impossible to span. English education must help students create a bridge over which they can journey from the classroom to other cities, countries, and cultures. The challenge is to create an English curriculum for composition which effectively meets the need of students to express themselves clearly and competently and develop their fullest potential.

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Appendix

Analysis Sheet for Student Writing

Name:_____ Period:_____ Grade:_____

Topic:_____ Literary Work:_____

I. Content and Development of Ideas _____
1=Excellent 2=Good 3=Minimal 4=Inadequate

II. Fluency

Total number of words in paper_____

III. Organization: Topic and number of words per paragraph

Introduction_____ Body 1_____

Body 2_____ Body 3_____

Conclusion_____

IV. Style: Sentence Complexity
A. Average length of sentences per paragraph_____
B. Number of types of sentences in paper
1. Simple Sentences_____
2. Compound Sentences_____
3. Complex Sentences_____
4. Compound-Complex_____

V. Mechanics: Types of Errors
A. Number of major errors
1. Sentence Fragment _____
2. Fused Sentence_____
3. Comma Splice_____
4. Any other errors made more than four times _____
B. Number of minor errors
1. Misspelled words_____
2. Apostrophe errors_____
3. Subject-verb disagreement_____
4. Word choice_____
5. Other_____

Involving Low-Income Minority Parents in Their Children's Education

Deborah G. Taylor

This paper reports and compares available information concerning parents' involvement in their children's education, effective ways of involving low-income minority parents, and the advantages and problems of involving parents. Three conclusions are reached. First, traditional methods of involving parents in their children's education do not work for most low-income minority parents; second, there are effective methods of involving low-income minority parents; third, the problems as well as advantages of implementing a parent involvement program require both education for involved individuals all and support from the school administration. The significance of these conclusions and possible implications are discussed.

Parents, educators, and the American public agree that achievement levels of our students must increase if students are to grow up, survive, and excel in a rapidly changing world. While everyone agrees on the goal of higher achievement (schools are judged successful when they raise student achievement), there is no quick solution to the problem.

Achievement is influenced by numerous factors; some are quite obvious and can be manipulated, while others remain hidden or unchangeable. A significant amount of research indicates a strong correlation between parent involvement in children's education and achievement (Cotton & Savard, 1982; Henderson, 1988; Stevenson & Baker, 1987). Parent involvement produces measurable gains in student achievement (Cotton & Savard, 1982; Henderson, 1988; Stevenson & Baker, 1987). While the overall picture looks promising, research shows that traditional methods of acquiring parental support for education and of involving parents in their children's education are not working for the low-income minority population, particularly the urban poor (Menacker, Hurwitz, & Weldon, 1988).

All students will benefit from improved levels of achievement, however, higher achievement levels among low-income minority students will positively impact their scholastic ability, educational level, and higher-income potential. Higher income and higher education levels would enable students to provide a better education and improved opportunities for their children, thus breaking the poverty cycle now occurring in the United States among low-income minority populations (Gage & Berliner, 1988, p. 87).

The purpose of this paper is (a) to provide a critical review of current literature related to parent involvement in education primarily at the elementary school level, (b) to discuss why traditional methods of involving parents are not working for low-income minority populations, and (c) to describe some methods which educators can implement to effectively involve low-income minority parents.

Parent Involvement

In an analysis and synthesis of available research concerning parents' involvement in their children's instruction, Cotton and Savard (1982) found that such involvement at the primary and upper elementary grade levels had a positive effect on the academic achievement, school attitudes, self concepts, and learning motivation of those children receiving the parental support. According to the research, parent-supported instruction resulted in positive achievement and affective outcomes for students from low-income households, minority races, and subcultures, as well as for students with special learning problems. Almost all of the information showed that students from these special groups experienced improvements in academic achievement and affective outcomes when their parents took part in their instruction (Cotton & Savard, 1982).

In 1981, the National Committee for Citizens in Education (NCCE) published an annotated bibliography, The Evidence Grows, which described 35 studies of parent involvement and student achievement. Findings showed that parent involvement appeared to produce measurable gains in student achievement (Henderson, 1988). In 1987, the NCCE completed an updated bibliography, The Evidence Continues to Grow: Parent Involvement Improves Student Achievement, in which 18 new studies were cited. The studies varied in their approach to the problem, methodology, and subject matter. They focused, however, on one of three general approaches to the problem of parent involvement: (a) improving the parent-child relationship; (b) integrating parents into the school program; and (c) building stronger connections among schools, families, and the community. Results of these studies as well as earlier research suggest that involving parents in their children's education, either in the home or at school, could make a critical difference in academic achievement (Henderson, 1988).

Studies concerning improved parent-child relationships showed that student achievement is strongly affected by a positive learning environment in the home. Such a learning environment includes parental encouragement of positive attitudes toward education and parental expectations of success from their children. If positive attitudes are successfully formed at home, children's achievement will be improved regardless of social class or other external influences and regardless of whether parent involvement occurs primarily at school or at home (Henderson, 1988).

Integrating parents into the school program refers to the question of whether involving parents in a school or in a particular program improves student achievement. When low-income parents were trained to work with their children, the children improved in language skills, test performance, and school behavior. Parents developed better attitudes toward school and school staff, actively supported the school within the community, and sought more education for themselves. Programs with the most comprehensive involvement produced the highest achievement gains (Henderson, 1988).

Building a partnership between home and school refers to whether good community relations affect student achievement

and school effectiveness. It was discovered that schools with higher levels of student achievement had considerably greater parent and community interest in the quality of education. The research findings in this category showed that involving parents in their children's education at home improved individual students' achievement but to improve the average level of achievement of an entire school required both parent and community involvement (Henderson, 1988).

Other studies have shown that when certain variables relating to the home environment are pooled, they correlate highly (from approximately .7 to .8) with school achievement. Several process variables appear to be the most significant: (a) the contribution of the home to the mother tongue, (b) the encouragement of the children to learn well, (c) the parents' aspirations for their children, (d) the provision of help in learning when needed, and (e) the manner in which time and space are organized within the home (Hawley, Rosenholtz, Goodstein, & Hasselbring, 1984, chap. 6). Parents assume considerable responsibility for their children's education since a teacher usually contributes only one year to a child's education, divides his/her attention and concern among many students in a class, and is required by district and state curriculum to teach certain subjects while eliminating others (Vernon, 1984).

Methods of Involvement

Most teachers and principals use traditional methods of involving parents. Becker and Epstein (1982) surveyed over 600 elementary school teachers in the Maryland public school system to determine how teachers feel about parent involvement with home learning as a teaching resource and to determine how widespread this teaching method is.

Over 95% of the teachers responding to the survey reported that they talked with their students' parents, sent notices home, and interacted with parents on open-school nights. They varied in how they conducted these interactions with parents. The majority (65%) reported they discussed "with each parent" what could be done at home with the children; the remaining teachers discussed this topic as the need arose. Many teachers reported discussing their teaching methods with parents but did not talk about parental responsibility regarding homework (Becker & Epstein, 1982).

Becker and Epstein (1982) reported that two-thirds of the teachers surveyed said they frequently asked parents to read to their children or listen to the children read. Many teachers believed learning through discussion at home was a valuable parent-child activity. Methods included discussing an assigned television program, discussing daily school activities, or interviewing parents. While there seems to be a large degree of passive support for learning through discussions, only a very small percentage of teachers constructed questions and ideas to enable parents and children to make active use of these methods.

Teachers in the survey were asked to respond to three techniques for involving parents and children in informal learning activities at home: (a) offering suggestions for educationally enriching ways parents can involve their child in home activities; (b) sending home suggestions, games, or

group activities related to the child's schoolwork to be shared by parent and child; and (c) suggesting how parents might use the home environment to stimulate their child's interest in school subjects. Approximately 30% of the teachers rejected these ideas either because of insufficient parent cooperation or skills. Forty percent of the teachers supported these methods in theory but rarely used the techniques. Teachers did not generally believe it worth the effort to instruct parents in teaching and in making supplemental learning materials for home use, or to encourage parental observations of lessons and teaching methods in the classroom. The majority of survey respondents indicated that they could not expect parent cooperation, that parents did not have sufficient skills, or that the methods might only sometimes work (Becker & Epstein, 1982).

Stallworth (1982) surveyed elementary teachers and principals in Arkansas, Louisiana, Mississippi, New Mexico, Oklahoma, and Texas. This study revealed an overall favorable attitude toward parental involvement with their children at home and in school activities. However, the respondents did not favor parental involvement in decisions concerning curriculum, instruction, and school administration.

Epstein (1986) conducted a survey of 1,269 parents to analyze parents' attitudes toward public elementary schools and reactions to teachers' methods of involving them in their children's education. In general, parents had positive attitudes about their public elementary schools and teachers and believed their goals for their children were similar to the teachers. However, parents did believe the schools could do involve them more in learning activities. According to the survey, few parents were involved at school.

An earlier survey of parents in Arkansas, Louisiana, Mississippi, New Mexico, Oklahoma, and Texas regarding parent involvement in schools (Stallworth & Williams, 1982) obtained relatively similar results. Respondents believed that parent involvement in the schools could improve if school personnel made parents feel more welcome and provided parents more information about their children's successes at school.

Epstein's survey (1986) showed that parents responded positively to teachers' efforts to involve them in learning activities at home. Parents who regularly received ideas and help from their children's teachers knew more about their children's instructional programs and rated their children's teachers higher in interpersonal skills and overall teaching quality. Both parent surveys showed that parents believed they could help their children when teachers provided learning activities to do at home. Most parents said they would help more if a teacher asked them and showed them what to do (Epstein, 1986; Stallworth & Williams, 1982).

Educators want to do all they can to improve student achievement, and research findings seem to indicate that parent involvement in education can significantly improve student achievement. These surveys of general teacher and parent populations indicate that both groups believe they need to work together to improve student achievement. Traditional methods of involving parents in their children's education seem to work for most individu-

als. However, studies of low-income minority students and parents indicated that traditional methods used by schools to involve parents in their children's education are not working. A recent survey reported that 61% of poor black elementary students said their parents did not get involved in school activities (Menacker et al., 1985).

Involving Low-Income Minority Parents

The need for parents of low-income minority students to be involved in their community school and in their children's education is becoming critical. The most frequently mentioned problem in a 1989 Gallup/Phi Delta Kappa Poll of teachers' attitudes toward the public schools was lack of parental support and interest (Elam, 1989). Educators often attribute poor discipline and substandard academic performance of low-income minority students to a lack of parental support and involvement (Menacker et al., 1988). Poor minority children are academically below the national average by as much as 2 years. In some areas of the country as many as 50% of minority children drop out of school (Comer, 1988).

Many low-income minority, low-achieving students are children of parents who grew up in poverty and were of low scholastic ability. Low scholastic ability and, consequently, low educational levels prevent these individuals from acquiring higher income and more prestigious jobs. Researchers have discovered that low-achieving children raised in poverty usually produce a new generation of low-achieving, low-income individuals. The pattern repeats generation after generation. Active parental involvement in the education of their children may help break the cycle of low scholastic ability and poverty (Gage & Berliner, 1988, p. 87).

The current public education system focuses on instruction and curriculum while de-emphasizing interpersonal factors. The system seems to assume that all children are of similar backgrounds and are equally well-prepared to perform according to proper school etiquette (Comer, 1988). However, current demographic studies show that increasing numbers of children are born out of wedlock to very young parents, come from single-parent homes, spend much of their time without adult care and supervision, live in poverty, speak a first language other than English, have physical or mental handicaps, and have poorly educated parents (Hodgkinson, 1986).

Menacker et al. (1988) reported surveys of students, teachers, and principals in selected inner-city, Chicago elementary schools serving poor African-American students. The principals were unanimous in identifying lack of parental support as the major cause for the high incidence of serious misbehavior and disorder in the schools. The principal's believed that many parents were unconcerned about their children's performance and behavior, and that the concerned parents lacked understanding, skills, and time to help their children. A majority of the teachers (53%) were resistant to involving low-income minority parents in school affairs.

According to students surveyed, low-income minority parents did show evidence of wanting to help. Only 16% of the

students said their parents would almost never punish them for misbehaving at school. While many students said their parents did not get involved in school activities, 86% reported that their parents tried to help them with their homework assignments. Therefore, the potential for improving school-parent cooperation exists, but new approaches must be developed and implemented (Menacker et al., 1988).

Some researchers suggested new methods for involving parents in education. Frustrated teachers and intimidated parents must be motivated to work together to improve mutual trust and understanding. Opportunities for parental participation must be flexible and creative. An effective method must show relatively quick benefits for all persons involved.

Effective Methods of Involving Low-Income Minority Parents

One approach proposes involving parents in education on four levels: (a) parents as clients, (b) parents as producers, (c) parents as consumers, and (d) parents as governors. At the beginning level, teachers would be provided time to develop methods to accommodate parents as clients. Teachers could improve public attitude by dispensing news of students' successes through school newsletters, telephone calls and letters to parents, or visits to students' homes (Menacker et al., 1988).

Home visits conducted early in the school year can initiate communication between school and home and possibly secure parental involvement in school activities early in the year. In their own environment, parents may be more willing to share insights into their child's personality and behavior. Home visits can give educators ideas for activities and supplies which children and parents may find beneficial. A personal visit can also communicate a caring attitude from the school to the home (Faison, 1984).

Using parents as producers would require careful planning to set up tasks beneficial to teachers and students that parents could perform effectively at school. Training parents, paying salaries, and providing child care services for parents when they are visiting or working at the school would require manpower and funding (Menacker et al., 1988).

Involvement of parents as consumers requires a district-level commitment to fund and operate evening and weekend programs. These programs would have to be educational, enriching, and based on what the parents need and want. Proponents of these programs encourage the use of school staff members as instructors, providing them additional income as well as an opportunity to interact with parents in positive ways (Menacker et al., 1988).

Parents would have to be properly informed, oriented, and trained before serving the school as governors. They could then help develop policies in such areas as grading, promotion, homework, fundraising, and discipline. Parents and school staff should be recognized for their special efforts. Working together might elicit a new respect and appreciation for each others' goals and problems (Menacker et al., 1988).

Comer (1988) believes that progress toward involving low-income minority parents in their children's education is not

possible until parents come from the same "mainstream background." All students do not arrive at school equally prepared to perform according to school expectations. Comer's studies of schools serving low-income minority students report low-achieving students; serious attendance and discipline problems; discouraged school staffs; and dejected, distrustful, angry, and alienated parents. Typical schools, with their hierarchical and authoritarian structure, hold low expectations for underdeveloped or differently developed students often and often blame students, their parents, and their communities for the problems. Parents experience personal failure because of their problems and feel rejected by the mainstream school. A high degree of mutual mistrust between home and school results.

Comer (1988) states, "The key to academic achievement is to promote psychological development in students, which encourages bonding to the school" (p. 46). Educators need to be trained in fostering positive interaction between parents and school. When parents and schools work together, a better chance exists of matching home and school expectations.

Comer (1988) and his colleagues developed a program to involve parents in education at three levels: (a) serving as representatives on a governance and management team to assist in shaping policy, (b) participating in activities supporting the school, and (c) attending school events. A core group of parents were paid classroom assistants who worked to involve other parents.

Many of Comer's (1988) methods for involving parents in education are very similar to suggestions made by Menacker et al. (1988). However, Comer's project includes consideration of special student needs. During the project, the school's psychologist, social worker, and special education teacher worked together helping students who had emotional, learning, or behavioral problems. Behavior problems resulted mainly from unmet needs rather than from a will to be disruptive. When actions were taken to meet these needs, behavior problems were reduced.

Comer (1988) concludes that this program can be successful. Without any change over the years in the socioeconomic makeup of the schools participating in the program, highly significant gains were made in academic achievement, attendance, and behavior. Students, parents, and staff developed a sense of pride in their achievements. (Comer, 1988; Norris, Comer & Hamilton-Lee, 1989).

Summary and Conclusions

Research indicates that teachers and parents differ in their opinions of home-school communication and their beliefs about each other's expectations and abilities. Teachers need training in dealing with parents and involving them in meaningful activities with their children. Parents need opportunities to communicate their questions, concerns, and feelings to teachers. They need training to help their children.

Schools have a responsibility to encourage parents to work with their children and to provide parents with helpful information, materials, and skills. If parents are discouraged from becoming involved and are

treated as unimportant, they will promote development of attitudes at home that inhibit school achievement.

School systems must find more effective ways of attending to the needs of all students but especially to the needs of low-income minority, non-mainstream students. Decisions must be based on careful analysis of all available, current research. Models for improvement such as Comer's (1988) and Menacker et al. (1988) are some of the best sources of information because they have been tested and their results analyzed and reported. There are similarities in the two models such as: (a) parents as clients, (b) parents as producers, and (c) parents as governors.

The success of such programs does not come without the investment of time, money, and commitment. Teachers can do much to involve parents in educational activities, but implementing an effective program such as the one proposed and tested by Comer (1988) requires district, state, and possibly even national educational and governmental support.

Teachers might be more motivated to support a parent involvement program if they were provided adequate time to develop and maintain the program and were compensated for their effort. Fewer students per teacher and daily planning periods would allow teachers some opportunity to prepare communications and materials for parents.

Schools may be more motivated to reach out to low-income minority populations through home visits and adult education programs if personnel were compensated for the extra time and energy these activities require. Educators, parents, and students need to see that their time and money produce positive results.

Surveys have shown that parents' involvement in their children's education declines as the children progress to higher grades, and fewer teachers help parents become involved. Since parents' helping skills are not developed and enhanced over the years, their skills dwindle as the child progresses through the grades (Epstein, 1986; Stallworth & Williams, 1982). Research has established the positive effects of parental involvement in children's education and effective methods of implementing parent involvement programs at the primary and upper elementary levels. Hopefully, parent involvement programs and their benefits will become more widespread among primary and elementary schools and will move into the junior high and high schools as well. Our children, who are our future, are facing serious problems in the modern world. Educators, parents, and communities must work together to educate healthy, productive future generations.

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Components of an Effective Reading Program for the Gifted Student

Resa Harris

This report examines an overview of research related to an effective reading program for gifted students. This report discusses attributes of gifted children, reviews the most commonly used identification procedures, and provides a rationale for a differentiated program of reading for the gifted learner. In addition, this paper considers the role of parents in fostering giftedness and presents specific guidelines for implementing a differentiated program of reading for the capable student.

In 1972, Commissioner of Education, Sidney Marland, offered the most widely used definition of gifted children:

> Gifted and talented children are those identified by professionally qualified persons who by virtue of outstanding abilities are capable of high performance. These are children who require differentiated educational programs and services beyond those normally provided by the regular school program in order to realize their potential to self and society. (cited in Davis & Rimm, 1985, p. 10).

Children capable of high performance include those individuals with demonstrated achievement and/or potential ability in any of the following areas:

1. general intellectual ability,
2. specific academic ability,
3. creative or productive thinking,
4. leadership ability,
5. visual and performing arts,
6. psychomotor ability.

In 1978, the U.S. Congress, as noted by Cassidy and Johnson (1986), revised the above definition to read:

> the term "gifted and talented children" means children...possessing demonstrated or potential abilities that give evidence of high performance capability in academic or leadership ability or in the performing and visual arts and who by reason thereof require services or activities not ordinarily provided by the school (p. 15).

Some educators, parents, and policy makers contend that these children do not require a differentiated reading program (Meckstroth, Tolan, & Webb, 1982). Proponents of this philosophy argue that these children "will make it on their own" (Davis & Rimm, 1985, p. 3) and can succeed without help since they have everything going for them (Meckstroth et al., 1982).

Contrary to this philosophy, the gifted child cannot achieve at superior levels without special assistance. The capable learner cannot triumph over mediocre educational programs. Failure to grant such special assistance or more specifically "failure to adequately stimulate the intellect of any child--gifted, retarded, learning disabled or normal--is one of the cruelest blows society can inflict on its young" (Schneider, 1987, p. 102). Consequently, a reorientation of public attitude concerning the education of the gifted child is mandated (Labuda, 1985).

The purpose of this paper, then, is to provide some possible answers to the

following questions: (1) What are the characteristics of a gifted learner, and how are they identified?; (2) Why do gifted students need differentiated reading instruction?; (3) What role do parents play in the education of their gifted child?; and (4) What are the specific guidelines for differentiating the reading program for the gifted student in the regular class?

Attributes of Gifted Children

Any discussion of the characteristics of gifted children must begin with research conducted by Lewis Terman. Terman organized a longitudinal study of 1500 children whom he classified as superior in intellectual ability. This study, which began in 1921, is still in progress; and from it many insights have been gained about the characteristics of gifted individuals. From his field studies, Terman concluded that gifted children learn to read easily and read both more and better books than average children (Gallagher, 1975).

Above average reading ability is a commonly noted attribute of gifted children. Olson (1980) discussed the relationship between giftedness and early reading ability. According to Olson, gifted children usually read early and may actually enter school already reading, either because their parents have worked with them or because they have taught themselves.

Reading, then, according to Brown and Rogan (1983), seems to represent the essence of intellectual superiority. Durr (1981) added that gifted children are usually advanced readers; they read on a level 2 to 4 years above that of their chronological age peers. In addition to these attributes, gifted children often excel in many academic areas, have excellent vocabularies, are verbally proficient, have remarkable memories and a wide range of interests, and also tend to be self-critical and self-motivated. Many of them are leaders in the classroom (Olson, 1980). Gifted students are also quite perceptive. They have long attention spans and an extensive knowledge base as well as a natural curiosity (Cornette, 1981).

Additional research suggests that gifted children develop morally at a more rapid rate than do their classmates. Davis and Rimm (1985) note that gifted children are less egocentric; they are able to view a situation from another person's point of view. Therefore, they are more likely to be sensitive to the feelings of others. Since they are also more likely to develop, refine, and internalize a system of values at an early age, the gifted child is more likely to develop an interest in social issues and problems.

Identification of Gifted Students

Recognition of the attributes discussed in the previous section is the first step in the identification process and the first component of an effective reading program for the gifted student (Cushenberry & Howell, 1974).

To guide parents and teachers in determining if a child is gifted, Cushenberry and Howell (1974) recommended the use of checklists. These checklists usually list several attributes of gifted learners with a space for checking those attributes which apply to a specific student. If several attributes are checked on the form, individual evaluation may be recommended according to specific state guidelines (Cassidy & Johnson, 1986).

Mental ability tests are the most widely used tools for measuring a child's learning potential. The Wechsler Intelligence Scales for Children-Revised and the Revised Stanford-Binet Intelligence Scales are the two most widely used instruments and are administered on an individual basis. Group tests such as the Otis-Lennon Mental Ability Test and the Cognitive Mental Abilities Test are also quite popular (Davis & Rimm, 1985). Most states require students to obtain a minimum score on these tests to qualify for placement in a gifted program (Cassidy & Johnson, 1986).

If special emphasis is going to be placed on differentiating the reading program for the gifted student, Cushenberry and Howell (1974) noted that informal instruments such as reading interest inventories are invaluable tools. These instruments help the teacher identify students having a wide variety of interests; and as stated previously, a wide range of interests is one attribute common to gifted individuals.

Rationale for a Differentiated Program

Once gifted students are identified, it is necessary to plan a course of study to meet their unique needs. The second component of an effective reading program for the gifted student is the rationale for its existence.

Durr (1981) noted that gifted education receives little attention because society tends to focus on the underdog and does not worry about the child reading at grade level though perhaps below his or her potential. Concern is only for the child reading below grade level.

Durr (1981) noted that society stresses oneness; differences disturb us. Olson (1980) relayed a story that illustrates this idea: a teacher bragged at the end of a school term because all students were on the same grade level. The gifted students, Olson pointed out, had regressed to the norm; and the less capable readers had caught up with the rest of the class.

Moreover, Isaacs (1985) stated that teachers and administrators often feel that helping a child regress to the norm is desirable. It is difficult, therefore, for a child to achieve maximum growth under a system geared toward the needs of the average child (Wallen, 1985).

Parker (1988) asserted that failure to meet individual needs of the gifted student is undemocratic. Democratic education is based on the philosophy that appropriate educational opportunities must be provided all students.

Appropriate educational opportunities for gifted children center around the characteristics of these talented students. Because gifted children differ in abilities, interests, and social maturity from their chronological age peers, their education must also differ (Bagford, 1981).

These special students must be given work which challenges them. This challenge is vital for mental growth and self-esteem (Parker, 1988). For example, if a child knows how to read, it is unlikely that individual will grow mentally or feel a sense of pride from completing worksheets on word recognition strategies (Olson, 1980).

Furthermore, failure to meet the educational needs of the gifted child results in a societal loss. One statewide study showed a dropout rate of 17.6% for gifted students.

Another study indicated that nearly 20% of the most capable students do not attend college (Parker, 1988).

Consequently, without adequate training gifted students will not fully develop their talents and leadership abilities. The loss to society is considerable since the "success and progress of society is in direct proportion to the quality of its leadership" (Parker, 1988, p. 31).

Thus, a differentiated program for the gifted child is necessary. In fact, Fehrle and Robinson (1984) contended that the reading needs of the gifted child can only be met through an instructional atmosphere which allows for the provision of a differentiation between methods, materials, and means of evaluation.

Parental Influences

Much research about the home life of the gifted child has been conducted. Many researchers believe that "many people have responsibility for the education of gifted children, but parents have the greatest responsibility of all" (Miller & Price, 1981, p. 142). Gordon (cited by Grotberg, 1985) concluded that the homes of gifted children have an intellectual base. Parents of these children have books, magazines, and newspapers readily available for use by their children.

Morrow (cited in Davis and Rimm, 1985) reported similar findings after examining the home environments of 58 kindergarten children who exhibited high interest in reading. According to the study, children in the high interest group came from homes which promoted literacy; that is, the family used the library, and the parents frequently read to the child.

A study conducted by Price (1978) further emphasized the importance of reading to children. Price found that students who were read to from birth read earlier than other children. The study involved 37 kindergarten children in Polk County, Florida. All 37 children could read upon entering first grade or shortly thereafter; of these 37 students, 34 were reportedly read to by their parents since birth.

Parents have the first major influence on a child's education. By attracting their child to printed materials, parents provide the foundation for giftedness in reading (Miller & Price, 1981). Therefore, parents should be aware of their role as teachers. Parental awareness represents the third component of an effective reading program and can be accomplished through educational training workshops or activities. Such guidance is common for parents of children with learning deficits; parents of children having special talents or abilities also deserve consideration (Labuda, 1985). This training should be established in the community to meet physical and mental needs of all children, including gifted individuals. Although formal assessment of a child's giftedness is not likely to take place before entry into school, providing parents with appropriate materials for a child they deem gifted builds a foundation for future learning (Grotberg, 1985).

After a child begins school, he/she can bring the school to the home by sharing materials or activities with his/her parents to foster learning at home, These activities in the form of projects or reading assignments are invaluable tools for parental involvement in a child's academic life. Through home visitations, resource teachers can share appropriate strategies or teaching

methods with parents who are reluctant to help their child (Grotberg, 1985).

The home must participate in the school. Schools should encourage parents to check out materials from the school library to enrich the home environment. The school should also invite parents to attend cultural events--dance recitals or musical performances--and encourage them to join advocacy groups for the education of their gifted child (Grotberg, 1985).

A child is more likely to reach full potential when a positive home/school relationship exists. This relationship can develop only if educators demonstrate an understanding of the needs of a gifted child's parents and work toward involving these parents in their gifted child's education.

Guidelines for a Differentiated Program

In 1969 Bigaj (cited in Fehrle and Robinson, 1984) developed an excellent set of guidelines for differentiating the reading program of the gifted child; these guidelines are still relevant today. Consideration of these points constitutes the fourth component of an effective reading program for the gifted child.

Specific Guidelines

1. Emphasis must be placed on individualizing instruction for gifted pupils.
2. The gifted pupil is often more capable of self-directed learning.
3. The gifted child at the primary level also needs flexible reading assignments.
4. The gifted pupil may not need an intensive and extensive readiness program at any level, as average and slow-learning pupils may require.
5. The gifted pupil's need for guidance in critical and creative thinking may easily become much greater then the average student's.
6. Since the gifted reader can often think, generalize and solve problems at a higher level than other children, that student must be challenged constantly if learning is to take place and interest maintained.
7. Since the gifted student at the primary level can gain much self-fulfillment through reading, instruction should help that pupil not only develop information-gathering skills but also to become a confident, happy individual by increasing the student's reading pleasure.
8. The gifted pupil should not be penalized by having to complete huge assignments merely because of academic potential. More of the same assignment is unnecessary.
9. The gifted pupil frequently has a longer attention span than the average learner and often does not require as many repetitions when mechanical or other reading skills are presented.
10. For the gifted pupil, emphasis during reading should be placed more on inductive rather than deductive instruction.

11. The gifted pupil often displays more diversified reading interests than do other pupils. Teachers, therefore, should build on these interests during reading instruction.

Discussion

Gifted students have the potential to excel in the classroom and in life. Their wide range of interests, problem-solving skills, and leadership abilities, once identified, can be channeled in positive directions. Consequently, to capitalize fully on these abilities, society must begin to emphasize education of the most capable learners. This education, as research indicates, must include a differentiated program of reading instruction for the gifted child. Such a program should include individualized instruction with the opportunity for self-directed learning. A differentiated program of reading instruction should stress creative and critical reading skills with special emphasis on inductive tasks (Fehrle & Robinson, 1984).

Affective goals are also an important component of a differentiated program of reading for the gifted student. Instruction should motivate students to read by building on and expanding their interests. The provision of challenging and interesting materials is fundamental to the success of any reading program (Wallen, 1985).

Implementation of such a reading program requires the cooperative efforts of parents, who play such a vital role in a child's mental development, and of teachers, who must meet the needs of so many different learners. Nevertheless, time constraints will serve as obstacles in the implementation of such a differentiated program. As Durr (1981) asserts, society does tend to focus on the underdog, especially in an educational system where test scores are perceived by many administrators as reflective of a teacher's effectiveness. Although reducing class size and employing more teachers would solve the problem, this solution also incurs financial considerations.

Future studies should center on the implementation of a differentiated reading program for the gifted student. Such studies should focus on finding a viable means of differentiating reading instruction while considering cost and effectiveness. Failure to implement such a program is undemocratic (Parker, 1988), and the contributive loss to society is immeasurable.

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Learning Disabled/Gifted Children: Identification and Service

Pollyanna Diamond

Learning disabled/gifted is a low-incidence population of students who are both learning disabled and gifted. Two significant problems in this area of study are inconsistent definitions for both categories and nonstandard eligibility requirements for the support programs. Much confusion exists regarding methods of assessment that will accurately identify those students whose giftedness and learning disabilities are masked. This paper addresses problems related to the accurate identification of the learning disabled/gifted and the nature of appropriate special services. Suggested identification methods are (a) checklists of gifted characteristics, (b) group measures, and (c) formal individual assessment. Once students are identified, various service possibilities include remediation of learning difficulties without enrichment, gifted enrichment without remediation of weaknesses, or a combination of both remediation and enrichment. Furthermore, since research indicates that the learning disabled/gifted may overlap with the underachieving gifted, who may pose a dropout risk, accurate identification and appropriate service may be in the best interest of society as well as beneficial to the child.

Learning disabled/gifted children, a low-incidence subgroup, have been much discussed in both gifted and learning disabled literature. The primary question is not whether the category exists, but how to identify and best serve this population. Gallagher (1988) supported this contention and said that the gifted underserved, including the learning disabled/gifted "represent a potentially serious loss of potential for the child, community, and nation" (p. 107). Furthermore, because learning disabled/gifted is a low-incidence category, most literature is descriptive in nature; the small number of available subjects makes experimental research difficult. However, the quantity of research seems to be increasing in regard to the most appropriate school-based special services for this group.

Cruickshank (1981) addressed the learning disabled/gifted population first in a discussion of the myths associated with the learning disabled. One myth is the idea that learning disabilities can only affect children of average intelligence. Cruickshank described two 12-year-old boys, who suffered cerebral anoxia at birth and later experienced problems in reading, math, and spelling, as well as processing problems specifically with figure-ground discrimination and visio-motor integration. One boy had an IQ of 135; the other had an IQ of 65. Both boys had learning difficulties; however, one was learning disabled/gifted, the other mentally handicapped. Cruickshank used this argument to support the contention that learning difficulties are equally possible at any level of intelligence.

Fox (1983) conducted a retrospective study of the records of students referred to the Temple University Reading Clinic and was able to identify a significant popula-

tion of learning disabled/gifted students. According to Fox, many of these students, given current eligibility requirements, would not only be ineligible for services but would probably not be referred by teachers for assessment because their achievement was at or above grade level.

Furthermore, the problem of successfully identifying the learning disabled/gifted population is not new; for example, Aaron, Phillips, and Larsen (1988) examined biographical records of Thomas Edison, Woodrow Wilson, Hans Christian Anderson, and Leonardo da Vinci. The researchers obtained information regarding these individuals from school records, descriptive reports of biographers, and self-report documents (i.e. diaries, letters, etc.). According to Aaron et al., all four famous individuals had learning problems, specifically with reading and language skills. They were visual learners, poor readers, and simultaneous processors/problem solvers; at least Edison and da Vinci had difficulty with mathematics. However, each person overcame, or circumvented, his learning disabilities because of positive parental support and an unusually intense interest in a particular area of study. This intense study at a young age compelled them to read. Aaron et al. stated that without these operating factors, these gifted individuals would probably not have experienced success. The study by Aaron et al., further substantiated that the category of learning disabled/gifted was verifiable.

Categories of Learning Disabled/ Gifted Students

One problem associated with research on learning disabled/gifted students is nonstandard eligibility requirements for both gifted and learning disability programs (Ganchow, 1985; Vaughn, 1989). These requirements influence who will be identified, the types of programs available (based on the number of students identified), and the scope of the research (Fox & Brody, 1983; Vaughn, 1989). Such nonstandard eligibility requirements in conjunction with the low-incidence of the category impede research efforts.

However, using descriptive research, the learning disabled/gifted category can be defined and described. Weill (1987) defined learning disabled/gifted students as ones who "have an outstanding gift or talent and are capable of high performance but who also have a learning disorder that makes this achievement difficult" (p. 341). Daniels (1983) reported that less than 4% of the learning disabled population is gifted on either verbal or performance measures. He preferred the Marland (1972) definition of giftedness and focused on general intellectual ability, creative and productive thinking, and specific academic aptitude as the areas in which learning disabled/gifted students were most likely to excel. Since these children are some of the most difficult to define, to understand, and to identify, they are most likely underreferred by the schools and overreferred by parents or the children themselves (Daniels, 1986; Gunderson, Maesch, & Rees, 1987; Landrum, 1989; Rosner & Seymour, 1983; Wolf & Gygi, 1981; Yewchuk, 1986).

The literature describes three categories of learning disabled/gifted children. First, children with the most severe disabilities are those who are identified at an early age as learning disabled, placed in a class to remediate these difficulties, and never identified as gifted. These children appear

to have poor motivation and a poor self-concept.

The gifted child who has learning disabilities is in the second category. This individual is placed in a gifted class and is in a better position, at least relative to self-concept. However, this student is likely to flounder when curriculum demands exceed ability to compensate (grades 3-5).

In the third group are those students who compensate well enough to achieve at or near grade level. They are rarely referred for gifted or for learning disability screening and may well be the gifted underachievers who "drop out" of school. Characteristically, they are "gifted" when not in school, but only average in the classroom (Baum, 1988; Betts & Neihart, 1988; Daniels, 1983, 1986; Fox, 1983; Roach & Bell, 1989; Schiff, Kaufman, & Kaufman, 1981; Weill, 1987; Whitmore, 1987).

Generally, learning disabled/gifted children exhibit some characteristics of both gifted children and learning disabled children. Daniels (1983) described four general categories of characteristics that distinguish the performance of learning disabled/gifted children from that of gifted children. In the first category are children who evidence deficits in receptive and expressive vocabulary, particularly in semantics. Their vocabularies are described as being like obelisks, narrow and unstable, compared to the broad and sturdy pyramid vocabularies of gifted children.

In the second category are children whose reaction speed is plodding, especially in academic areas. They are at an acute disadvantage when taking tests standardized by this tendency and, therefore, are rarely identified by screening measures utilizing timed tests.

Children in the third category lack flexibility, developing one technique or procedure and then clinging to it in the face of better solutions. They have a difficult time coping with alternate solutions and any lack of structure.

The fourth category includes children who do not adapt well to change. They are overwhelmed by the thought of change and see themselves as acted upon rather than as acting upon. This poor adaptability may contribute to an apparent lack of motivation evidenced in these children. The lack of stimulation experienced by children identified as learning disabled but never as gifted tends to reinforce this rigidity and make this characteristic more pronounced.

Daniels also discussed three related emotional characteristics: (a) denial (these students often do not accept the fact that they have learning problems and their career choices may be unrealistic); (b) projection (the child may blame others for learning difficulties experienced; parents may also use projection to cope with their child's problems; and (c) rationalization (the most intense manifestation is in the statement, "I could have done it, but I did not try").

Gunderson et al. (1987) included a characteristic of the gifted which presents another difficulty for learning disabled/gifted students: self-criticism with accompanying high self-expectations. This characteristic tends to decrease self-confidence and to increase undermotivation. The child knows that something is wrong but does not understand the problem. The tendency is to measure oneself against one's gifted counterpart, further damaging self-esteem.

Other authors have listed additional, specific characteristics such as a desire for independence, goal directedness, sensitivity

to others' perceptions of them (Wolf & Gyri, 1981); negative self-concepts (Tannenbaum & Baldwin, 1983); high reasoning and verbal abilities (Cordell & Cannon, 1985); poor organizational skills, superior high-level thinking skills, and a fear of taking risks (Whitmore & Maker, 1985); deficits in mechanics and paragraph structure with average or above average thematic maturity, vocabulary, and word usage (Gunderson et al., 1987); creativity (Baum & Owen, 1988; Shaywitz & Shaw, 1988); and the inability to persevere and the presence of inferiority feelings (Roach & Bell, 1989). These characteristics reflect the strength of the giftedness as well as the weaknesses inherent in the learning disability.

Identification

The literature presents several models of identifying learning disabled/gifted children. The easiest individuals to identify are the learning disabled with giftedness and the gifted with learning disabilities. Learning disabled students who are gifted are usually found in resource classes for learning disabled students and are generally identified through individual intelligence tests as a part of the assessment procedures for learning disabilities placement (Gunderson et al., 1987). Gifted students with learning disabilities are usually placed in gifted programs and are identified as learning disabled only when they are no longer successful in appropriate tasks at the expected level of academic performance given their measured intellectual ability. The group at greatest risk and usually never identified as gifted or learning disabled includes those who are achieving at or near grade level, the gifted "pseudo-achievers" (Daniels, 1983). The discussion of identification addresses this latter group.

One of the major problems with this group is that both giftedness and learning disabilities are masked. That is, the giftedness masks the learning disability because the child is able to sufficiently compensate to avoid failure; however, the learning disability impedes the child's achievement so that giftedness is not revealed either. Group testing does not help identify giftedness because the highly verbal content and time constraints work against learning-disabled students (Barton & Starnes, 1989; Elkind, 1973; Fox & Brody, 1983; Hansford, 1987; Jones,1986; Schiff et al., 1981; Weill, 1987; Whitmore, 1987.)

Some writers suggest using teacher recommendations as referred sources for learning disabled/gifted students (Tannenbaum & Baldwin, 1983). However, unless the teacher has a good understanding of the characteristics of learning disabled/gifted children, those students who compensate well will be missed. Peer, parental, or self-nominations are likely to be inaccurate for the same reason. When these children are referred, it is usually for behavioral problems, not academic ones (Waldron, Saphire, & Rosenblum, 1987). Tannenbaum and Baldwin (1983) suggested screening for giftedness through teacher observations, parent reports, and evidence of general ability/performance in extracurricular activities. They suggested that a pool of students be chosen on this basis and given the chance to prove themselves. However, final decisions regarding inclusion in a program are based on actual student performance.

In contrast, a recent study emphasized the inaccuracy of teacher recommendations to identify learning disabled/gifted children. Waldron et al. (1987) identified a learning

disabled/gifted population and matched this group with a control group of gifted students. The Piers-Harris Self-Concept Scale (Piers, 1977), Wechsler Intelligence Scale for Children-Revised (Wechsler, 1974), and Wide Range Achievement Test (Jastak & Wilkinson, 1978) were readministered to the children. Parents completed a developmental history form, and teachers completed a questionnaire on gifted characteristics. A significant finding was that teachers perceived the learning disabled/gifted as experiencing attention difficulties; however, these students were seen as less disruptive than the gifted control group. Additionally, learning disabled/gifted students believed themselves less intelligent than their peers. Perhaps a more significant finding was that the teachers did not identify the learning disabled/gifted students as learning disabled or as gifted.

Whitmore and Maker (1985), Wolf and Gygi (1981), and Minner, Prater, Bloodworth, and Walker (1987) recommended training teachers, psychometrists/psychologists, and support personnel in observation skills, (i.e., what and how to observe). This recommendation was echoed by Gunderson, et al. (1987); they also suggested using the parental report as an additional tool.

Gerken (1979), in discussing the recognition of giftedness in a person with any handicap, viewed assessment as a continuous process carried out over a number of years and based on many types of significant evidence gathered from a variety of sources including parents and teachers. Gerken recommended taking into account factors other than intelligence which affect performance and comparing the child to non-handicapped peers; compensatory characteristics would be of prime interest to the observer. According to Gerken, the assessment of these children should not differ in quality from assessment of non-learning disabled children but may take significantly longer to complete due to the complexity of the presenting problems and the unavailability of adequate measures to identify giftedness within the handicapped group.

In an attempt to structure the assessment process, Karnes, Shwedel, and Lewis (1983) used a three-step procedure to identify learning disabled/gifted children. Step one, a screening step, included the completion of the Talent and Screening Checklist (Karnes & Shwedel, 1981) by parents and by teachers. In step two, the child participated in one or more Activities for Talent Identification (Karnes & Shwedel, 1981) during which the observer looked for a demonstrated talent-related skill in a semistructured setting. If the children scored above the predetermined cut-off, they were eligible for the program. If the selection was not clear at this point, step three was instituted and consisted of a diagnostic evaluation by the psychologist with input from a multidisciplinary team. The authors suggested that this approach would not exclude anyone potentially gifted and would benefit anyone included.

Several writers suggested using the Wechsler Intelligence Scale for Children-Revised (WISC-R) and studying the subtest scatter and patterns of strengths and weaknesses (Barton & Starnes, 1989; Baum, 1984; Baum, Emerick, Herman, & Dixon, 1989; Betts & Neihart, 1988; Cordell & Cannon, 1985; Daniels, 1986; Rosner & Seymour, 1983; Sah & Borland, 1989; Schiff et al., 1981; Senf, 1983; Silverman, 1989; Suter & Wolf, 1987; Weill, 1987; Yewchuk, 1986). However, this approach

has not been proven to be consistently accurate in identifying learning disabled/gifted children.

As an alternative to subtest scatter, Yewchuk (1986) and Suter and Wolf (1987) suggested that response quality on the WISC-R be studied. They found that learning disabled/gifted children tend to exhibit response style characteristics of gifted children such as the elaboration of detail in answers to clear-cut simple questions and the ability to think outside a normal frame of reference.

Additional reports indicate that achievement scores of learning disabled/gifted children may be well below those expected from intelligence test verbal scores (Sah & Borland, 1989). For this reason some researchers suggest multidimensional approaches, including the use of nonverbal measures. All approaches include some intelligence measure in conjunction with an achievement measure, and most methods of assessment also include information from parents and teachers (Barton & Starnes, 1989; Baum, 1988; Betts & Neihart, 1988; Daniels, 1983, 1986; Fox & Brody, 1983; Jones, 1986; Rosner & Seymour, 1983; Sciff et al., 1981; Silverman, 1989; Suter & Wolf,1987; Weill, 1987).

Daniels (1983) and Fox and Brody (1983) criticized the use of group achievement tests with learning disabled/gifted children. The verbal nature and time constraints of these instruments present a problem for these children. According to Daniels, skills are best assessed using individual tests, specifically informal reading inventories and tests of memory span in conjunction with diagnostic observation and teaching.

Using the work of Luria and Das (cited in Snart, Das, & Mensink, 1988), Snart et al. attempted to validate an assessment system using the simultaneous coding and sequential synthesis approach, with tests of planning ability, sustained attention, and selective attention added to assess these processing areas. They used parts of the Kaufman Assessment Battery for Children (Kaufman & Kaufman, 1983) to assess sequential and simultaneous processing, and they added tests of planning ability and attention. Snart et al. selected these areas for assessment due to their relative difficulty for learning disabled children. The population studied included gifted, learning disabled, gifted/learning disabled, and non-learning disabled children; the subjects were matched for age, sex, and IQ. Both groups of learning disabled students performed significantly lower on sequential processing tasks, selective attention tasks involving names and letters, and on tests of planning ability than did either group of non-learning disabled. The gifted group did better on all tasks. Higher IQ students, both gifted and learning disabled/gifted, did better than average students (learning disabled and non-learning disabled) on planning ability tasks. Snart et al. suggested that programs be developed that teach sequential processing skills instead of or in conjunction with content area remediation. They cited a study which found this type of program to be significantly successful (Brailsford, Snart, & Das, 1984).

Service

Once students are identified, the next question is how best to serve these students. Again, a general lack of consensus exists on the best method. However, a few

studies have addressed this issue and have also made many recommendations not based on research.

A study by Karnes et al. (1983) used a handicapped population, which included learning disabled and other categories of physical/sensory handicaps. Both the school and parents at home used materials based on the "Structure of Intellect" paradigm. The researchers encouraged parents and gifted specialists to become involved with teachers of the preschool handicapped to see that the students received needed services to maximize their gifts and talents. A follow-up was conducted on 30 of the 61 students originally involved with the program. Of the 30, 27 were in regular educational settings. All persons diagnosed as handicapped at the preschool level were at or above grade level in achievement.

A recent study (Baum & Owen, 1988) examined various combinations of service for gifted and learning disabled/gifted students. Findings indicated that remediation alone is not enough for learning disabled/gifted students. Special enrichment activities are necessary to enhance interests and strengths and to provide a challenge. Students should be encouraged to circumvent weaknesses while highlighting abstract and creative production. Baum and Owen suggested that enrichment activities should occur outside the context of remediation since different teaching styles are involved and linking failure with success is undesirable. They suggested compacting the remedial studies curriculum to allow time for enrichment programs. Teachers should coordinate enrichment and remedial activities such that enrichment reinforces basic skills, focuses on strengths, and remediates weaknesses. A study by Baum (1988) focused on the Renzulli Triad model in working with learning disabled/gifted students. Baum used children's strengths to build skills needed to complete tasks. Results indicated that learning behavior, time on task, and motivation showed marked improvement when students selected their own interest areas. An unexpected result was improvement in the academic achievement of four of the seven students involved. One student no longer needed learning disabilities support, another gained four grade levels in reading, and two persons began improving in all areas.

A study by Nielson and Mortorff-Albert (1989) examined four service plans: (a) self-contained learning disabled/gifted classes, (b) regular classes with learning disability service only, (c) regular classes with gifted service only, and (d) regular classes with learning disabled and gifted services. Students were given the Piers-Harris Self-Concept Scale (Piers, 1977) to measure self-concept. This measure was used to determine program efficacy because of the tendency of learning disabled children to have low self-concepts; thus, higher self-concept scores would indicate program success. Results indicated that placement which focuses only on deficits may put learning disabled/gifted students "at risk" concerning their self-worth. Nielson and Mortorff-Albert suggested that service in both areas, with adequate modifications within the regular program, would be the best service for learning disabled/gifted students. For example, learning disabled/gifted students placed in this type of class tended to have lower self-concepts than other gifted students but higher self-concepts than learning disabled/gifted students in other settings. The finding of lower self-concepts is probably due

to the narrow range of ability within the peer comparison group. However, the researchers considered this a realistic assessment of self-worth and no cause for concern. Elkind (1973) and Hansford (1987) concurred, further recommending the inclusion of alternate response modes (oral examinations, word processors, tapes, etc.). According to Elkind and Hansford, with alternate response modes, the learning disabled/gifted child can succeed in any educational setting.

Whitmore (1981) cited the Cupertino, California program for highly gifted underachievers as a model for learning disabled/gifted students. Since the definition of learning disabled parallels the definition of underachiever, the two groups may enjoy some overlap. The Cupertino program includes a curriculum appropriate for the gifted with an emphasis on the arts and sciences and a pairing of strengths with weaknesses in programs for remedial instruction. Whitmore further noted that when these students are not identified, the result is detrimental to their self-concepts, in terms of social and emotional problems and may become a greater handicap than the learning disability.

Whitmore (1987) argued that the gifted/handicapped, including the learning disabled/gifted, have a "civil right" to programs for the gifted as part of PL 94-142 in order to provide them the opportunity for full development of learning potential. According to Whitmore, special education and gifted education share the goal of meeting individual needs. Special education focuses on the disability, while teaching control and management; gifted education focuses on strengths to help the student learn control and management of the learning process.

On the other hand, Fox (1984) discussed placement in terms of the programming available in gifted classes and indicated the learning disabled/gifted child needs some sort of learning disabilities resource program. However, the wisdom of placing the child in a gifted class should be determined by the type of program in place. For example, acceleration is not advised for a learning disabled student with reading problems; difficulty keeping up with the pace of the class represents a significant drawback. Similarly, enrichment in reading or literature is not recommended for this child; however, for a student with a math disability, reading enrichment may be suitable. Furthermore, pull-out programs are not advised if the student must make up missed work. However, if the regular teacher is willing to make adjustments, a pull-out program is ideal for learning disabled/gifted students. Mentorships, however, may be best for these individuals. The child is allowed to work at a self-determined pace and has a role model in the mentor. Ideally, the mentor is an individual who has experienced success despite some handicap. Fox stated that "the real hope for the learning disabled/gifted may be in the gradual movement toward completely individualized educational planning for all children" (p. 127).

Summary

The first step in sorting through the morass of identification strategies is to adequately define gifted and learning disabled. Without an adequate operational definition, assessment strategies are almost impossible. Standardization of eligibility requirements for program placement must also occur. Until these issues are resolved,

accurate identification and placement appear impossible.

Assuming that the educational community agrees on operational definitions of gifted and learning/disabled, available research can then help in choosing appropriate measures for identifying of these children. Checklists can be devised to help classroom teachers identify the "hidden" population of learning disabled/gifted, individuals who achieve at average or near average levels. Descriptive characteristics inherent in the definition of learning disabled/gifted can then be refined and operationalized. Other psychometric and informal measures can be utilized, and research can determine the efficacy of the assessment methodology.

If we must continue dealing with ambiguities in current definitions, then a multidimensional assessment procedure is indicated. For the hard-to-identify child, the "hidden" learning disabled/gifted, some of the checklists recommended in the literature seem promising for use by teachers and parents. Development of well-normed, non-verbal measures for the learning disabled population is also needed. The work of Snart et al. (1988) seems promising in identifying processing deficits. Unfortunately, time and financial constraints prohibit testing of all children. Such individualized testing may not even be a worthwhile practice. The group measure appears to be with us indefinitely, and inservice training of teachers to recognize both learning disabilities and giftedness is perhaps the best avenue to assist children referred for special services.

Once the child has been "labeled" appropriately for service, the question then becomes what service is most appropriate. Some specialists recommend combining remediation and enrichment; others indicate that such a combination is not a good procedure because the "gift" becomes linked with the weakness. A combination of separate services (i.e., learning disabilities resources and gifted resources) may be best. Most specialists concur that modifications are necessary in the regular classroom. Given the above choices, a combination of learning disabilities resources and separate gifted resources appears best for the student. Since most teachers of the gifted are not trained to accommodate learning disabled students, much coordination would be needed for the student to experience success in the gifted resource setting. Learning disabilities resource classes should also stress compensatory strategies to minimize the learning disabled/gifted child's frustration. Most educators agree with Fox (1984) that increased individualization for all children may provide the best opportunity for learning disabled/gifted children. However, funds will limit program implementation as will the training and educational backgrounds of teachers. Generally, more research is needed to evaluate the efficacy of various programs.

Since learning disabled/gifted students seem to be a subset of the larger at-risk population of gifted underachievers/dropouts, addressing these problems is important. However, since the learning disabled/gifted is a low-incidence population, little attention is paid to this group in research or in programming. Society should pay attention to this group of students because without learning support and enrichment opportunities, productivity of the learning disabled/gifted may be severely limited. Again, the key to adequate provision of services appears to be accurate

identification, which must be the starting point in providing adequate services.

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